REMARKS

Claims 1-22 were pending in this application.

Claims 1-22 have been rejected.

No Claims have been amended.

Claims 1-22 remain pending in this application.

Reconsideration and full allowance of Claims 1-22 are respectfully requested.

I. REJECTION UNDER 35 U.S.C. § 103

The Office Action rejects Claims 1-22 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,761,469 to Greenley et al. ("*Greenley*") in view of U.S. Patent No. 6,412,061 to Dye ("*Dye*"). The Applicant respectfully traverses this rejection.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). If the Patent Office does not produce a *prima facie* case of unpatentability, then

without more the applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24

U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870,

873 (Fed. Cir. 1985).

A *prima facie* case of obviousness is established when the teachings of the prior art itself

suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d

781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of

obviousness, three basic criteria must be met. First, there must be some suggestion or

motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify the reference or to combine reference teachings. Second,

there must be a reasonable expectation of success. Finally, the prior art reference (or references

when combined) must teach or suggest all the claim limitations. The teaching or suggestion to

make the claimed invention and the reasonable expectation of success must both be found in the

prior art, and not based on the applicant's disclosure. MPEP § 2142.

The cited portions of *Greenley* recite a superscalar processor 100 and memory hierarchy,

including register file 150, data cache 180 and alignment unit 170 and sign extension unit 160

between register file 150 and data cache 180. (*Figure 1; Col. 1, Lines 29-30 and 41-45*).

Greenley requires alignment of data by alignment unit 170 prior to writing the data into register

file 150 to ensure that unconsecutively stored data is aligned into an appropriate format. (*Col. 2,

Lines 19-30 and Lines 35-47*).

The Office Action acknowledges that *Greenley* fails to teach "bypass circuitry ... capable

of transferring said first data value from said data cache directly to said target register without

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processing said first data value in said shifter circuit." (*Office Action, Page 4, Paragraph 8*). The Office Action then asserts that *Dye* recites bypassing portions of a circuit and that it would be obvious to modify *Greenley* with *Dye*. (*Office Action, Page 5, Paragraph 12*). The Office Action asserts that "the sign extension and alignment units" need not be used when "fetched data occupies the entire register." (*Office Action, Page 4, Paragraph 9*).

However, as mentioned above, *Greenley* specifically <u>requires</u> that the alignment unit 170 align the retrieved data even when a double word (64 bits) is retrieved from the cache. (*Col. 2, Lines 43-45*). The alignment unit 170 must examine the retrieved data because the data may not be physically stored consecutively in the cache. (*Col. 2, Lines 19-25*). The alignment unit 170 is different from and serves a different purpose than the sign extension unit 160.

The Applicant agrees with Examiner that the sign extension unit 160 may be skipped when fetched data occupies the entire register. However, the alignment unit 170 of *Greenley* cannot be skipped, as asserted in the Office Action. Instead, the alignment unit 170 must examine the contents of the retrieved data to ensure that it is properly aligned. As a result, *Greenley* teaches away from the present invention, and modifying *Greenley*, as the Examiner suggests, to bypass the alignment unit 170 would render the *Greenley* reference unsatisfactory for its intended purpose and/or change the principle of operation of *Greenley*. MPEP 2143.01.

For these reasons, there is no motivation to modify *Greenley* with the teachings of *Dye* so as to bypass the alignment unit 170. In particular, there is no motivation to modify *Greenley* using "bypass circuitry" capable of transferring a "first data value" from a "data cache" directly to a "target register" without processing the first data value in a "shifter circuit" as recited in

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Claims 1 and 14. Also, there is no motivation to modify *Greenley* so as to transfer a "first data value" from a "data cache" directly to a "target register" without processing the first data value in a "shifter circuit" as recited in Claim 10.

In addition, regarding Claim 10, Claim 10 recites transferring a data value to either a "shifter circuit" or a "target register" based on a "determination" that a "pending instruction" is a "load half-word operation," a "load byte operation," or a "load word operation." *Dye* contains no mention of transferring a data value to different locations based on whether a pending instruction is a load half-word operation, a load byte operation, or a load word operation. *Greenley* simply recites that half-words, bytes, and words are all processed by the aligning unit and the sign extension unit. (*Col. 2, Lines 36-46 and 62-65; Col. 3, Lines 1-16*). As a result, *Greenley* and *Dye*, both individually and in combination, fail to disclose, teach, or suggest transferring a data value to a "shifter circuit" in response to a determination that a pending instruction is a "load half-word operation" or a "load byte operation." *Greenley* and *Dye* also both fail to disclose, teach, or suggest transferring a data value to a "target register" in response to a determination that a pending instruction is a "load word operation."

For these reasons, the Office Action has not established a *prima facie* case of obviousness against Claims 1, 10, and 14 (and their dependent claims). Accordingly, the Applicant respectfully requests withdrawal of the § 103 rejection and full allowance of Claims 1-22.

II.   CONCLUSION

As a result of the foregoing, the Applicant asserts that the remaining claims in the application are in condition for allowance and respectfully requests an early allowance of such claims.

SUMMARY

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@davismunck.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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Date: _Jun 22, 2004_

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